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Docket No.: K-0039

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCE**

In re Application of

Confirmation No.: 5887

Byung Keun LIM

Group Art Unit: 2662

Serial No.: 09/189,793

Examiner: Ahmed Elallam

Filed: November 12, 1998

Customer No.: 34610

For: METHOD AND APPARATUS FOR CODE DIVISION DUPLEXING

REPLY BRIEF

U.S. Patent and Trademark Office
Customer Window, Mail Stop Appeal Brief-Patents
Randolph Building
401 Dulany Street
Alexandria, Virginia 223134

Sir:

In response to the Examiner's Answer dated December 20, 2006, appellant is providing this Reply Brief in accordance with 37 C.F.R. § 41.41.

Appellant respectfully maintains all previous arguments with respect to the pending application. Claims 30-32, 34-36, 38-40 and 43-47 remain pending in this application. The outstanding Office Action dated February 6, 2006 (hereafter the Office Action) rejects claims 30-32, 34-36, 38-40 and 43-47 under 35 U.S.C. §103(a) over U.S. Patent 5,235,615 to Omura in view of U.S. Patent 5,487,083 to Nakajima et al. (hereafter Nakajima).

Independent claim 30 recites each of the plurality of reverse communication channels having a unique code to identify the channel as a reverse communication channel and each of

the plurality of forward communication channels having a unique code to identify the channel as a forward communication channel.

The Examiner's Answer (at paragraph bridging pages 6-7) and the Office Action (on page 6, lines 3-8) assert that Omura does not specify that each reverse channel and forward channel have a unique code to identify the channels as a reverse communication channel and a forward communications channel, respectively. However, the Examiner's Answer now appears to disagree with this previous statement.

For example, the Examiner's Answer (on page 10, lines 1-5) states that:

"Examiner asserts that the fact that the teaching of "unique chip codeword may be the same" also suggest that the unique chip codeword **may not be the same**, that is the unique chip codeword used for the base-communications signal **may not be the same** as the unique chip codeword used for the remote-communications signal."

Appellant respectfully disagrees with this analysis. Omura does not contain an enabling disclosure of the claimed features. Stated differently, Omura does not contain an enabling disclosure that "each of the plurality of reverse communication channels having a unique code to identify the channel as a reverse communication channel and each of the plurality of forward communication channels having a unique code to identify the channel as a forward communication channel." Further, appellant disagrees with the assertion that "unique chip codeword may be the same" suggests that the unique codeword may not be the same. Appellant respectfully submits that the Examiner's Answer makes a determination based on the word "may" within Omura. Omura does not contain an enabling disclosure that the unique code words are not the same (in Omura's system).

The Examiner's Answer (on pages 7 and 10) states that Nakajima discloses that each communication channel is assigned two spectrum spreading codes which define a pair of forward and reverse channels. The Examiner's Answer (bottom paragraph on page 7) and the Office Action cites Nakajima's col. 3, lines 63-67 and col. 4, lines 1-11. The Examiner's Answer (page 7) and the Office Action (in the paragraph bridging pages 6-7) state that it would have been obvious to have made the forward and reverse channel of Omura each separated by a unique code as taught by Nakajima so as to avoid interference between adjacent radio zones and to increase the capacity.

Appellant respectfully submits that the applied references may be combined as alleged in the Examiner's Answer and the Office Action. Furthermore, appellant respectfully submits that the references, even if combined, do not teach or suggest all the features of independent claim 30 (as well as the other independent claims 34, 38 and 43).

Omura relates to code division that utilizes a unique code given to each user. The Examiner's Answer and the Office Action attempt to modify Omura by applying Nakajima, without any basis in the prior art, in order to show that a reverse channel and a forward channel have separate codes. However, Nakajima only discloses that a communication channel may be assigned two spectrum spreading codes to define a forward channel and to define a reverse channel. This teaching of Nakajima may not be simply modified into Omura. More specifically, Omura's CDMA system does not suggest a full duplex system such as a CDD system. Nakajima relates to a TDMA type of system. Therefore, there is no suggestion for modifying Omura's CDMA system to include additional features of Nakajima's TDMA system. Rather, the only

suggestion for the claimed features (and therefore to modify Omura) is provided by appellant's own specification. That is, the Examiner's Answer and the Office Action clearly have chosen respective features from different references and combined those references based on appellant's own teaching (and not based on the teachings of the prior art). Appellant respectfully submits that there is no suggestion in the known prior art to modify Omura's CDMA system so as to include unique codes being assigned to reverse and forward channels as recited in independent claim 30. Appellant respectfully submits that the combination based on Omura and Nakajima should be withdrawn at least for this reason.

The Examiner's Answer (in the paragraph bridging pages 10-11) appears to assert that CDMA and TDMA features are not claimed. However, appellant discusses features of Omura's CDMA system and TDMA system when discussing the alleged combination of Omura and Nakajima. MPEP §2143.02 (last paragraph) states that the prior art must be considered in its entirety (i.e., as a whole). Appellant believes that Omura's reliance of using a CDMA system must be taken into consideration when being modified (as alleged) to include features from a TDMA system.

The Appeal Brief (on page 9) argued that Nakajima does not relate to a plurality of reverse communication channels and a plurality of forward communication channels that utilize one common frequency (as recited in independent claim 30) in combination with each of the reverse communication channels having a unique code to identify the channel as a reverse communication channel and each of the plurality of forward communication channels having a unique code to identify the channel as a forward communication channel. That is, independent

claim 30 specifically relates to a plurality of forward and reverse channels that utilize one common frequency. These claimed features may not be ignored. Nakajima clearly does not disclose a plurality of forward communication channels and a plurality of reverse communication channels where each of the reverse communication channels has a unique code and each of the plurality of forward communication channels has a unique code.

The Examiner's Answer (on paragraph bridging pages 11-12) appears to assert that both Omura and Nakajima disclose a plurality of forward and reverse channels each having a unique code and the plurality of forward and reverse channels use one common frequency. However, independent claim 30 recites a plurality of reverse communication channels and a plurality of forward communication channels that utilize one common frequency in combination with each of the reverse communication channels having a unique code to identify the channel as a reverse communication channel and each of the plurality of forward communication channels having a unique code to identify the channel as a forward communication channel. At best, Nakajima only discloses two spectrum spreading codes for a channel.

The Examiner's Answer and the Office Action rely on applicant's own specification when determining "how and why" to combine the two references. However, there is no suggestion in the prior art for the additional features that are not shown in Nakajima and/or Omura.

The Examiner's Answer and the Office Action do not provide a reference that suggests "each of the plurality of reverse communication channels having a unique code to identify the channel as a reverse communication channel and each of the plurality of forward

communication channels having a unique code to identify the channel as a forward communication channel.”

For at least the reasons set forth above, the Examiner’s Answer and the Office Action fail to make a *prima facie* case of obviousness. Additionally, the applied references do not teach or suggest all the claimed features. Thus, independent claim 30 defines patentable subject matter.

Each of independent claims 34, 38 and 43 contain different features than independent claim 30. These differences are specifically addressed in the Appeal Brief. For at least the reasons set forth in the Appeal Brief and for similar reasons as set forth above, each of independent claims 34, 38 and 43 are also believed to contain allowable subject matter.

Dependent claim 44 recites that the unique code to identify the channel as a reverse communication channel is different for each of the plurality of reverse communication channels of the one frequency channel, and the unique code to identify the channel as a forward communication channel is different for each of the plurality of forward communication channels of the one frequency channel.

The Examiner’s Answer (on page 13) appears to cite Nakajima for the specific features of dependent claim 44. However, Nakajima only discloses two spectrum spreading codes for a forward and reverse channel. Nakajima does not suggest each of the plurality of reverse communication channels having a unique code and each of the plurality of forward communication channels having a unique code. The Examiner’s Answer appears to state that the spreading codes are “inherently different from each other.” Appellant respectfully disagrees as there is no teaching of this inherency. Accordingly, Nakajima also does not suggest that “the

unique code...is different for each of the plurality of reverse communication channels” and “the unique code...is different for each of the plurality of forward communication channels.” Accordingly, dependent claim 44 defines patentable subject matter at least for this additional reason.

Dependent claim 46 recites that each of the first unique code, the second unique code, the third unique code and the fourth code are different. The Examiner’s Answer (in the paragraph bridging pages 15-16) relies on Nakajima for the features of dependent claim 46. However, Nakajima does not disclose first through fourth unique codes being different. Rather, Nakajima explicitly describes only two spectrum spreading codes per channel. See Nakajima’s col. 4, lines 8-11. The Examiner’s Answer states that the cited section of Nakajima relating to the two spectrum spreading codes per channel “are understood to be between one single mobile and the base station.” However, there is no basis for this assertion. The applied references do not suggest the claimed first, third and fourth codes being different (when including the features of base independent claim 34). Thus, dependent claim 46 defines patentable subject matter at least for this additional reason.

Dependent claim 45 recites that the unique code to identify the channel as a reverse communication channel is different for each of the plurality of reverse communication channels of the one frequency channel, and the unique code to identify the channel as a forward communication channel is different for each of the plurality of forward communication channels of the one frequency channel. Additionally, dependent claim 47 recites each of the first unique code, the second unique code, the third unique code and the fourth unique code are different.

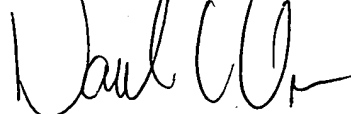
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For at least similar reasons as set forth above, Nakajima (and Omura) do not suggest at least these features. Thus, dependent claims 45 and 47 also define patentable subject matter.

For at least the reasons set forth above and for at least the reasons set forth in the Appeal Brief (as well as the previous responses), Appellant maintains that claims 30-32, 34-36, 38-40 and 43-47 are patentable over the applied references and therefore define patentable subject matter. Appellant respectfully requests that the rejections of claims 30-32, 34-36, 38-40 and 43-47 set forth in the February 6, 2006 Office Action be reversed or withdrawn.

Respectfully submitted,
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